GOVERNMENT COMMUNICATIONS SECURITY BUREAU
TE TIRA TIAKI

What is 5G?

New Zealand's public telecommunications networks are critical to the day-to-day functioning of New Zealand. They support the functioning of critical national infrastructure and services, are essential to the operations of government including public health and safety services, enable our economy, and are relied upon for nearly all aspects of our day-to-day lives as New Zealanders.

Any major disruption to the availability of public telecommunications services, or the confidentiality or integrity of communications supported by public telecommunications networks, could have a significant impact on our economic well-being, our health and security, the integrity of public institutions, and our national security. New Zealand's mobile network operators are in the process of making major investment decisions to support their transition to fifth generation (5G) mobile standards. These investments will underpin the functioning of public telecommunications networks for at least the next decade. 5G promises faster data speeds (up to 100 times faster than 4G), lower latency, and the potential for ubiquitous connectivity.

5G architectures will help to drive economic and technological innovation and investment, support the burgeoning demands of the Internet-of-Things (IoT), provide for entirely new business models and approaches for both network operators and other industries, and support new and beneficial services, including driverless cars, smart cities, and digital healthcare.

The growth of 5G-connected devices, and the services that depend on 5G networks for telecommunications, will facilitate new innovation across all sectors of New Zealand's economy, including in energy, the food sector, transport, and the provision of health and education services. 5G will also play a role in the provision of central and local government services.

5G represents a significant step-change in the evolution of telecommunications networks, and the security of these networks will have significant ramifications for the future of New Zealand.

In New Zealand, 5G network security is governed by the Telecommunications (Interception Capability and Security) Act 2013. Part 3 of TICSA sets out a framework for the prevention, mitigation, or removal of network security risks in relation to the design, build, and operation of public telecommunications networks, including 5G. Under Part 3 of TICSA, network operators have an obligation to notify GCSB of certain proposed decisions, courses of action, or changes. GCSB is required to conduct an assessments of the network security

risk that may arise if that decision, course of action, or change is implemented. Assessments are made on a case-by-case basis following notifications to the GCSB. Each notification is assessed on its own merits, according to the facts and circumstances of the network operator and the nature of the proposed changes, including how they will be implemented.

The design of 5G networks will be very different to traditional networks. As is often the case from new technologies, this new design comes along with some security challenges. Officials have work under way on this.